

2 PROJECT DESCRIPTION

2.1 INTRODUCTION

Patterson Sand and Gravel (the applicant) is an existing sand and gravel mining operator in Placer and Yuba counties, California. Its current mining operation occupies approximately 326 acres of a 436-acre mine site. The applicant is requesting issuance of county conditional use permits (CUPs) and approval of a mine reclamation plan and financial assurances to allow expansion of its current sand and gravel mine by approximately 448 acres (365 additional acres of mined area, and 83 acres of preservation area). The Placer County CUP application includes adding an asphalt batch plant to the existing operation, and extending the operational life of the mine from its current expiration date of approximately 2028 to approximately 2058. The proposed asphalt batch plant is the only proposed operational change from the mine's currently permitted operation. Patterson Sand and Gravel is requesting extension of the mine's operational life to allow expansion of mining activities onto 365 acres adjacent to the current operation. Patterson Sand and Gravel is also requesting modification of its current approved mine reclamation plan.

The project would also include a required rezoning of the proposed mine expansion areas within Placer County to include a mineral reserve (-MR) combining district. The purpose of an -MR combining district is to:

identify lands that may contain valuable mineral resources, protect the opportunity for the extraction and use of such resources from incompatible uses, to provide for the extraction of mineral resources and the reclamation of lands subsequent to such extraction, so as to maintain the economic viability of mining while minimizing adverse impacts to the environment, public health, safety, and welfare. (Placer County Zoning Ordinance §17.52.110)

This project description has been developed based on the following information, copies of which are available for review at the Placer County Planning Department, 11414 B Avenue in Auburn, California (530-886-3000):

- ▶ *Initial Project Application for Conditional Use Permit* for Placer County (North Fork Associates 2003);
- ▶ *Patterson Sand & Gravel Revised Initial Study* (North Fork Associates 2001a);
- ▶ letters regarding the Patterson Sand and Gravel Environmental Impact Report (Spence-Wells, pers. comms., 2001);
- ▶ *Draft Mine Reclamation Plan for Patterson Sand & Gravel, Camp Far West Road, Sheridan, Placer and Yuba Counties, California* (Carlton Engineering, Inc. 2003);
- ▶ *Patterson Sand & Gravel Mine Reclamation Plan Addendum, Biological Mitigation and Agricultural Reclamation Areas* (Carlton Engineering, Inc. 2004);

- ▶ *Access Alternatives Analysis for Patterson Sand & Gravel, Placer County* (kd Anderson 2000);
- ▶ *Reclamation Plan for Patterson Sand and Gravel at Sheridan, California* (Western Planning and Engineering 1986), the current (existing) plan;
- ▶ *Patterson Sand & Gravel Revised Biological Mitigation Plan, Placer and Yuba Counties, California* (North Fork Associates 2001b); and
- ▶ *Conceptual Woodland Mitigation Plan for the Patterson Sand and Gravel Expansion* (North Fork Associates 2004).

This project description provides the basis for the evaluation of environmental impacts in Chapters 4–16 of this document. To provide a context for the discussion of the proposed mine expansion project, this project description begins with a general discussion of relevant mining and reclamation requirements and mineral resources classifications. This is followed by an overview of the Patterson mine site, including the existing mining operations, processing, and reclamation. The proposed mine expansion is then described in detail.

For the purposes of this EIR, the term “mine site” refers to the existing mine site, including reclaimed areas and unmined areas (e.g., Bear River) within the currently permitted site boundary. The term “project site” refers to the 884-acre area that includes the mine site and the proposed expansion area, including areas not proposed for mining (e.g., Bear River and preserve areas).

MINING AND RECLAMATION REQUIREMENTS

Surface mines are regulated by the State of California through the Surface Mining and Reclamation Act (SMARA), PRC §2710 *et seq.* The State Legislature, in implementing SMARA, recognized that the extraction of minerals is essential to the continued well-being of the state and to the needs of society. SMARA requires mines to be reclaimed to a usable condition that is readily adaptable for a productive and alternative land use that creates no danger to public health or safety. In creating SMARA, it was the intent of the State Legislature to create and maintain an effective and comprehensive surface mining and reclamation policy, with regulation of surface mining operations, so as to assure that:

1. Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition that is readily adaptable for alternative land uses.
2. The production and conservation of minerals is encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
3. Residual hazards to the public health and safety are eliminated.

SMARA defines lead agencies as the local government agency, or in certain cases the State Mining and Geology Board (SMGB), that has principal responsibility for approving a surface mining operation or reclamation plan (PRC §2728). SMARA also requires every lead agency to “adopt ordinances in

accordance with state policy which establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations (PRC §2774).” Section 17.56.270 of the Placer County Zoning Ordinance has been adopted pursuant to this SMARA requirement. Chapter 11.20 of the Yuba County Zoning Ordinance (Surface Mining) was drafted with an intent to comply with this provision of SMARA, but is not certified by the SMGB. Under these circumstances, the SMGB is responsible for review and approval of proposed surface mining operations in that county (PRC §2774.5[c]).

The Board of Supervisors from Placer County, in implementing its surface mining ordinance, found that:

1. The extraction of minerals is essential to the continued economic well-being of the County and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety.
2. The reclamation of mined lands as provided for in the county ordinances will permit the continued mining of minerals, and will provide for the protection and subsequent beneficial use of the mined and reclaimed land.
3. Surface mining takes place in diverse areas where the geologic, topographic, climatic, biological, and social conditions are significantly different, and reclamation operations and specifications therefore may vary accordingly.

The purpose and intent of Placer County’s Board of Supervisors in implementing §17.56.270 of its county ordinances was to ensure that:

1. Adverse environmental and other effects of surface mining operations will be prevented or minimized and that the reclamation of mined lands will provide for the beneficial, sustainable, long-term productive use of the mined and reclaimed lands; and
2. The production and conservation of minerals will be encouraged, while eliminating hazards to public health and safety and avoiding or minimizing adverse effects on the environment, including but not limited to geologic subsidence, air pollution, water quality degradation, damage to biological resources, flooding, erosion, degradation of scenic quality, and noise pollution.

For the purposes of this EIR, “reclamation” is defined as follows:

the process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations...so that mined lands are reclaimed to a usable condition which is readily adaptable for alternate land uses and create no danger to public health and safety. The process may extend to affected lands surrounding mined lands, and may require

backfilling, grading, resoiling, revegetation, soil compaction, stabilization, or other measures. (SMARA, PRC §2733)

MINERAL RESOURCES CLASSIFICATIONS

Pursuant to SMARA, the California Division of Mines and Geology (CDMG) is responsible for classifying land in terms of Mineral Resource Zones (MRZs) that characterize the known or presumed economic value of underlying mineral resources. The State Mining and Geology Board (SMGB) oversees the CDMG's mineral land classification system.

Land can be classified into six MRZ categories based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources:

- ▶ *MRZ-1:* Land where geologic data indicate that there is little likelihood of the presence of significant mineral resources.
- ▶ *MRZ-2a:* Land where geologic data indicate that significant mineral resources are present.
- ▶ *MRZ-2b:* Land where geologic data indicate that significant inferred mineral resources are present.
- ▶ *MRZ-3a:* Land containing known mineral occurrences of undetermined mineral resource significance.
- ▶ *MRZ-3b:* Land containing inferred mineral occurrences of undetermined significance.
- ▶ *MRZ-4:* Land containing no known mineral occurrences, but where geologic data do not rule out either the presence or absence of significant mineral resources.

2.2 MINE SITE HISTORY

Mining has historically occurred on the mine site and surrounding areas since placer mining took place in the region as early as the 1840s (Jensen & Associates 1996). Placer mining in the Sierra Nevada during that period washed large amounts of sediment down the Bear River drainage, leaving deep deposits in the project area. Gold dredging occurred within the mine site until approximately 1903. More recently, sand and gravel deposits at the site have been mined continuously since 1956 by a variety of operators, including Folsom Ready Mix from 1957 to 1960, C. O. Brand in 1959, Baun in 1961, and Hudson from 1962 to 1964. The mine has operated under the name of Patterson Sand and Gravel since 1956.

The Morehead family purchased the operation from the Patterson family in 1977 and began mining the sand and gravel deposits in 1978. The Morehead sons purchased the operation from their father in 1995. The current owner, Automatic Aggregate Systems Inc. dba Patterson Sand & Gravel, purchased the operation from the Morehead sons in 1999 and has been operating at the mine site continuously

since that time. In recent years, the demand for sand and gravel products from the existing operation (i.e., largely building and roadway materials) has continued to increase. Since the 1996 closure of a sand and gravel operation in Rocklin, California, the Patterson Sand and Gravel mine has been the closest supplier of these materials for construction activities in southern Placer County. To help ensure the company's ability to meet current and future demand for these products, the applicant is proposing to expand the existing operation to extend the operational mine life.

2.3 EXISTING PATTERSON SAND AND GRAVEL MINE CHARACTERISTICS

REGIONAL PROJECT LOCATION

The project site consists of approximately 884 acres located immediately north and south of the Bear River in northwestern Placer County and southern Yuba County, California. The site is located approximately 60 miles northeast of the City of Sacramento and 20 miles southeast of the City of Marysville, as shown in Exhibit 2-1. The project site, including the existing mine and the proposed expansion area, is located on property owned by Automatic Aggregate Systems Inc. (Patterson Sand and Gravel) and property leased from AKT Wheatland Ranch LLC (owners of approximately 2,000 acres of lands supporting commercial walnut orchards) in portions of Sections 29, 30, and 31 of Township 14 North, Range 6 East; and Sections 25 and 36 of Township 14 North, Range 5 East, Mount Diablo Baseline and Meridian. Access to the site is provided via an entrance gate located in Placer County on the northwest side of Camp Far West Road, approximately 2.5 miles northeast of the town of Sheridan, Placer County, and 4 miles east of the City of Wheatland, Yuba County. The project vicinity and site access are shown in Exhibit 2-2.

The proposed expansion area consists of approximately 448 acres located immediately west of the existing operation on property owned by AKT Wheatland Ranch LLC, and south of the existing processing plant area on Patterson Sand and Gravel property. The applicant has obtained a lease from AKT Wheatland Ranch LLC to mine sand and gravel deposits on its land. As described below, the applicant is proposing to mine up to an additional 365 acres and to protect 83 acres as an oak woodland preservation area.

PROJECT SITE DESCRIPTION

The approximate 884-acre project site (Exhibit 2-3) consists of:

- ▶ the existing operation (approximately 326 acres in Placer and Yuba counties),
- ▶ the Bear River Corridor Preservation Area (approximately 110 acres in Placer and Yuba counties within the existing mine site),
- ▶ the proposed mine expansion area (approximately 365 acres in Placer and Yuba counties), and

Exhibit 2-1

Exhibit 2-2

- oak preservation areas (three separate areas totaling approximately 83 acres of oak woodland in Placer and Yuba counties within the proposed expansion area).

The entire project site is located within the 100-year flood zone of the Bear River (FEMA 1982 and 1998). Site topography is relatively flat with elevations ranging from 110 feet to 140 feet above mean sea level (msl); areas to the north, east, and south of the project site are characterized by gently rolling hills common in the Sierra Nevada foothills region. The Bear River channel bisects the site and is bordered by levees within the boundaries of the existing mine. Mining operations north of the river have created a main area basin with floor elevations ranging from 75 to 90 feet msl. Topography within the existing mine south of the river is characterized by low mounds of reserve deposits, and a riparian area with ponds and native riparian vegetation that was reclaimed from former mine pits in accordance with the existing mine reclamation plan. The ponds have water surface elevations of 119 feet and 122 feet msl, respectively. The proposed mine expansion area south of the river is flat and cultivated as rice fields (Carlton Engineering, Inc., 2003).

Current site conditions reflect historic land uses in the project area and the ongoing sand and gravel mining operations. As described in Section 2.2, historic placer mining in the Sierra Nevada washed large amounts of sediment down to the Bear River drainage, leaving deep deposits on the project site and surrounding areas. In addition, construction of Camp Far West Dam, located approximately 2.5 miles east of the site, by the U.S. Army Corps of Engineers (USACE) has resulted in controlling Bear River flows and in a subsequent reduction in the width of the active channel. The reduction in channel size of the river has also stabilized the location of the river channel.

The entire project site contains deep, coarse soils, primarily sands and larger grained materials, that have historically supported several native plant communities, including oak woodland, riparian woodland, and annual grassland. The undisturbed portions of the project site are characterized by oak woodland, oak savanna, and riparian woodland (North Fork Associates 2000a).

The remaining portions of the project site are in active agricultural production. AKT Wheatland Ranch LLC includes walnut orchards that extend offsite to the north and west. Rice fields are located in the southern portion of the proposed expansion area, and within adjacent properties south of the project site.

The project site is located within MRZ-2a, MRZ-2b, and MRZ-3a, and Aggregate Resource Areas (ARAs) 1 and 7, as delineated in CDMG Open File Report 95-10, pursuant to the Mineral Land Classification System (Lloyd 1995). An ARA is an area that has been classified as MRZ-2a or MRZ-2b for construction aggregate by the State Geologist and is considered to be available for mining based on criteria for compatibility provided by the State Mining and Geology Board. The relationship between areas classified MRZ-2 and the corresponding ARA is defined in Open File Report 95-10 as follows:

- *ARA-1, Sheridan Pit:* This ARA is currently permitted for aggregate mining and is operated by Patterson Sand and Gravel. ARA-1 is placed in the Immediately Significant category (i.e., currently permitted for aggregate mining) because it is already permitted for mining.

Exhibit 2-3
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- ▶ *ARA-7, Lower Bear River:* ARA-7 is placed in the Highly Significant category. These lands are defined as ARAs that contain more than 10 times the threshold value of material, or approximately 20 million tons at the 1995 average price of aggregate in Placer County, or deposits that are adjacent to permitted property. ARA-7, Lower Bear River, lies adjacent to a currently permitted aggregate mining operation and the amount of material present is more than 10 times the threshold amount required for classification.

EXISTING OPERATIONS: OVERVIEW

The Patterson Sand and Gravel Mine is currently permitted (Placer County CUP 1093) to operate on approximately 326 acres (Placer County 1987). The current permit is set to expire in 2028. During the remaining term of the current permit, approximately 14 million tons of materials (the estimated volume of materials remaining in the area currently permitted for mining) would be mined and processed. (Mining would occur over 20–25 years, depending on current and future market conditions.) Under the current permit, final closure of the Patterson Sand and Gravel Mine would likely occur in 2028, after final site reclamation.

Elements of the existing operation are shown in Exhibit 2-4. The processing plant, supporting maintenance shop, scale house, and offices are located south of the Bear River while the majority of the current mining operations occurs on the north side of the river. An overview of mining, processing, and reclamation of the existing operation is provided below. Typical equipment used at the existing operation is listed in Table 2-1.

Under the existing permit, there are no restrictions on the hours of operation (Placer County 1987). Business/shipping operations are currently conducted at the mine 6 days per week, year round. Current hours of business/shipping operation are Monday through Friday, 6 a.m.–5 p.m., and Saturdays, 6 a.m.–noon. Hours of operation are extended periodically in response to specific contractual requirements of projects. Processing and/or mining operations typically occur from 6 a.m. to 10:30 p.m., but can extend to 5 a.m.–midnight during the summer. The current permit requires the mine operator to notify the Placer County Department of Public Works (DPW) if truck traffic approaches 200–250 daily truckloads or 20–30 hourly truckloads.

The current route for outbound haul trucks follows Camp Far West Road south to Porter Road, Porter and Karchner Roads south to Riosa Road, and Riosa Road to SR 65 (Exhibit 2-2). Trucks then travel either northbound or southbound on SR 65 to their destination. Returning haul trucks and delivery vehicles travel the reverse of the outbound haul route.

EXISTING OPERATIONS: MINING

Total sand and gravel deposits at the mine site are estimated to be approximately 75 million cubic yards (Carlton Engineering, Inc., 2003). An exploratory drilling program was conducted to characterize aggregate deposits at the mine site, including the proposed expansion area (Raney Geotechnical 1998). Deposits were explored through 12 exploratory borings to approximate depths of 50–70 feet. Results

from the borings indicate that the aggregate deposits consist of silty fine sand, sandy fine to coarse gravel, sandy clayey gravel, sandy gravelly clay, and clayey sandy fine to coarse gravel with cobbles.

Table 2-1 Existing Patterson Sand and Gravel Mine Major Equipment		
Equipment	Power	Uses
Mining/Reclamation		
Dozers (Caterpillar and D6)	Diesel	Clearing, grubbing, and initial excavation operations
Excavators (Komatsu PC 650 and Caterpillar 350L)	Diesel	Excavation of mined materials
Scrapers (Caterpillar 633)	Diesel	Clearing, grubbing, and initial excavation operations
Loader (Michigan L150)	Diesel	Loading of materials onto haul trucks and/or portable topsoil screening plant
Haul truck (Five Caterpillar D400)	Diesel	Transport of materials to the processing area
Processing		
Portable topsoil screening plant (Powerscreen Chieftan)	Diesel	Screening of surface materials for topsoil use
Loader (Two each Caterpillar 988F and 980F)	Diesel	Loading of material into processing plant/customer trucks
Wash plant #1 and sand classifier	Electric	Washing and screening of surface and concrete-quality materials; sorting and stockpiling of sands
Wash plant #2	Electric	Washing and screening of blend of rock and deeper mined materials
Crusher plant	Electric	Primary and secondary crushing of larger mined materials
Hazardous Materials Storage		
Aboveground diesel storage tank (15,000-gallon capacity)	N/A	Storage of diesel fuel for mine-related equipment
Aboveground gasoline storage tank (1,000-gallon capacity)	N/A	Storage of gasoline for mine-related equipment
Aboveground waste oil tank (1,200-gallon capacity)	N/A	Storage of waste oil from mine-related equipment
Aboveground storage tank (2,000-gallon capacity)	N/A	Storage of water (not currently used)
Aboveground coolant storage tank (300-gallon capacity)	N/A	Storage of coolant for mine-related equipment
Aboveground propane storage tank (289-gallon capacity)	N/A	Storage of propane for heating office/scale trailer
Sources: EDAW 2001; Spence-Wells, pers. comm., September 2001; Carlton Engineering, Inc. 2003		

Exhibit 2-4
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These deposits are either washed and screened individually, or mixed with other materials before being sold and transported offsite for use as construction materials. A portion of the sandy and clayey materials is used for reclamation and levee construction.

The Patterson Sand and Gravel mine is an open-pit operation using mining methods and equipment common to the industry (see Table 2-1). Off-channel sand and gravel deposits are mined using a continuous excavation, beginning with surface and near-surface materials, primarily sands; no instream mining is conducted at the existing operation. Because of the nature of the sand and gravel deposits, little or no overburden is encountered during mining operations. There are strata and areas of sandy and clayey materials that are used for reclamation and levee construction. Photographs of current mining operations are provided in Exhibit 2-5.

Once the surface materials are removed, the remainder of the deposits are mined by layer using excavators and dozers with sequential pit dewatering to a maximum depth of approximately 100 feet, depending on specific subsurface conditions encountered during mining. Side slopes created during mining are maintained at 2.5:1 (horizontal to vertical) in the pit and 2:1 or flatter along the constructed river levees in accordance with USACE specifications (Western Planning and Engineering 1986).

Table 2-2 Patterson Sand and Gravel Mine Production Rates	
Year	Tons Produced
1992	509,135
1993	452,956
1994	340,554
1995	389,163
1996	684,343
1997	1,079,208
1998	1,483,163
1999	1,816,328
2000	1,554,045
2001	1,271,417
2002	1,016,694
2003	1,138,335
Source: Burns, pers. comm., 2002 and 2004	

Mining has been conducted in phases sequentially beginning on AKT Wheatland Ranch LLC properties in the eastern portion of the mine site and continuing westward toward the western boundary of the currently permitted area. Mining rates have varied over the life of the operation in response to market demand for sand and gravel products. Initial mining rates for the existing operation varied from approximately 350,000 tons per year to 500,000 tons per year (Morehead, pers. comm., 1998). However, with the closure of an aggregate operation in Rocklin, California, in 1996, the Patterson mine became the closest supplier of sand and gravel products to construction operations in southern Placer County. Consequently, based on data from the project applicant (Burns, pers. comm., 2002; Burns, pers. comm., 2004), production rates have increased to a 7-year average of about 1.34 million tons per year (mty) (Table 2-2). For the purposes of this EIR analysis, however, the year 2000 production rate is used for the baseline condition because it provides the best data available representing operational conditions at the time of the Notice of Preparation (NOP) (i.e., original NOP in June 2000; subsequent NOP related to haul routes in March 2001), and is the year closest to the mine's historically highest rate where comprehensive traffic operational data are available. Annual production in 2000 reached the second highest total for the mine since its opening.

Exhibit 2-5
A-SIZE COLOR

EXISTING OPERATIONS: PROCESSING

Internal haul roads are located throughout the mine site to provide access to active mining areas for haul trucks, other vehicles, and mining equipment. An existing 280-foot steel and concrete bridge provides access across the Bear River. Mined materials are transported on haul trucks and scrapers to the processing plant, located south of the Bear River, for processing. The processing plant consists of washing, screening, crushing, and sorting operations to process the mined materials into market-grade materials, such as concrete aggregate, topsoil, and white sand. A complete product list for existing operations is included in the mine reclamation plan (available at the Placer County Planning Department on request). The processing plant includes three main facilities: two wash plants (referred to below, for reference purposes only, as “wash plant #1” and “wash plant #2”) and a crushing plant. A general flow diagram of the processing operations is provided in Exhibit 2-6, and photographs of the processing facilities are provided in Exhibit 2-7. Processing rates have varied throughout the life of the mine in conjunction with mining rates. An overview of the major processing facilities is given below.

Wash Plant #1. Surface and near-surface materials, sands, and concrete quality materials are transported to and processed in wash plant #1. The vibrating deck screens off material larger than 1-1/2" in diameter and conveys it to the crusher plant for primary and secondary crushing. Materials 1-1/2" in diameter or less are washed, screened, and sorted into a variety of construction materials—3/8" to 1/4" pea gravel, 1" to 3/8" concrete aggregate, and 1 1/2" to 1" drain rock. Smaller materials (coarse to fine sands) are conveyed directly to a 10-foot by 40-foot sand classifier for grading and stockpiling.

Wash Plant #2. Deeper materials from mine pits are transported to wash plant #2, which replaced a previous wash plant and began operating in 1997. Materials 9" to 7/8" in size are conveyed to the surge pile to be fed into the crusher plant. Materials 3/4" to 1/4" in size are stockpiled as waste rock and returned to the pit for reclamation; materials 1/4" or smaller in size are washed and blended with materials from the secondary crusher to create base rock and other related products. Because wash plant #2 replaced an existing wash plant, the new plant did not expand the capacity of the processing plant.

Crusher Plant. The crusher plant uses a primary and secondary cone crusher to reduce 6" to 1-1/2" material from wash plant #1 and 9" to 7/8" material from wash plant #2 to minus 3/4". Rock from both wash plants are drawn from a common stockpile and conveyed to the primary crusher. Output from the primary crusher is conveyed to dry, vibrating screens. Crushed rocks smaller than 3/4" are then screened out and stockpiled according to size while rocks larger than 3/4" are conveyed to a secondary cone crusher. The re-crushed rocks are placed back on the conveyor feeding the vibrating screen for resizing. The plant recirculates material to the secondary crusher until all the rock is crushed to less than 3/4" in diameter. (Gravel products range in size from 1-1/2"x 3/4" down to 3/8"x 3/16". Crushed rock products range in sizes from 3/4"x 1/2" to 3/8"x 1/4". [Burns, pers. comm., 2004.]

Exhibit 2-6

Exhibit 2-7 color

Water used for processing operations (and appurtenant uses) is supplied from reclaimed wash water and fresh water obtained from groundwater pits. Processing operations use approximately 4,500 gallons per minute (gpm), primarily for washing. Most of the water is recycled through a closed system; wastewater from the processing plant is combined with the processing waste fines from washing operations to create a slurry, which is then pumped to settling/holding ponds, where the fines are allowed to settle. Some of the water in the settling ponds is lost to evaporation and percolation. The remaining water is either reused onsite for dust control or is conveyed back to the processing plant for reuse in aggregate processing operations. Approximately 800 gpm of freshwater (i.e., make-up water) is needed to make up the water lost to evaporation or percolation. Fresh water is pumped directly from groundwater ponds.

The previous mine operator had periodically added a coagulant (NALCO 95DC118 CAT COAG) to the process wastewater to assist in settling the fines. The coagulant was stored in an aboveground 2,000-gallon storage tank located near the processing plant. (This storage tank will remain at the mine site.) It was pumped into the slurry at the point where it enters the conveyance pipe for pumping to the settling pond. The coagulant was added on an “as needed” basis, depending on processing rates. This coagulant consisted of a polyquaternary amine solution that contains no hazardous materials, per the Occupational Safety and Health Administration (OSHA) Hazard Communication Rule (29 Code of Federal Regulations [CFR] 1910.1200). The previous use of coagulant is described further in Chapter 14, Hazardous Materials. No coagulants are currently used in Patterson Sand and Gravel’s mining operations. The tank remains onsite for potential water storage use.

EXISTING OPERATION: RECLAMATION

The current mine reclamation plan (Western Planning and Engineering 1986) guides reclamation activities at the mine site. The current mine reclamation plan requires the applicant to reclaim the mine to the following uses after cessation of mining: a ± 203-acre private lake north of the Bear River, a ± 38-acre pay fishing lake south of the river, a day use picnic area, a campground, landscaping to provide screening, a riparian revegetation area along the Bear River, and agriculture. Reclamation has occurred concurrently with mining operations where feasible, on portions of the existing operation where mining has been completed. Reclamation activities to date include the stockpiling of processing fines for use as growth media for revegetation, pit backfilling, and levee construction. In addition, revegetation has commenced in several areas including previously mined areas south of the Bear River, and on recontoured side slopes in the northeastern section of the mine site (refer to Exhibit 2-4). In addition, the perimeter of one approximately 15.4-acre pond has been revegetated with wetland plant species including cattail (*Typha latifolia*), sedge (*Carex* spp.), and rushes (*Juncus* spp.). This area is located in the eastern portion of the mine site. Photographs of areas currently being reclaimed are provided in Exhibit 2-8.

Exhibit 2-8 color

EXISTING OPERATION: HAUL ROUTE

The current route for outbound haul trucks follows Camp Far West Road south to Porter Road, Porter and Karchner Roads south to Riosa Road, and Riosa Road to SR 65 (Exhibit 2-2). Trucks then travel either northbound or southbound on SR 65 to their destinations. Returning haul trucks and delivery vehicles travel the reverse of the outbound haul route.

2.4 CHARACTERISTICS OF THE PROPOSED EXPANSION PROJECT

BASIC PROJECT OBJECTIVES

The primary objective of the applicant is to secure permits and approvals to fully develop the known high-quality sand and gravel deposits located at the project site; to maximize the use of onsite facilities, equipment, and personnel; and to maximize the return on capital investments. In addition, the proposed expansion project would allow the applicant to continue to supply sand and gravel products for future demand in the region. The basic objectives of the project, as stated by the applicant, are as follows:

1. Encourage the production and conservation of mineral resources, while giving consideration to environmental factors.
2. Allow for the development of a sufficient supply of aggregate and asphalt to meet the future needs of society while increasing the level of environmental protection and monitoring.
3. Develop known aggregate reserves in close proximity to existing permitted processing plant facilities, to provide optimum efficiency and economy of operation.
4. Provide for a reasonable period of approved operations, in accordance with the availability of resources, lease agreements, and foreseeable mining and reclamation plans.
5. Provide continued employment for 44 people, create new job opportunities, and indirectly support employment in trucking and other related businesses.
6. Protect lands containing identified mineral deposits from the encroachment of incompatible land uses, so that aggregate resources remain available for future use, as needed.
7. Implement a reclamation program designed to minimize erosion, reestablish vegetation, wildlife habitat, and agricultural uses; and limit aesthetic impacts created by mining.
8. Conduct mining so that the disturbance of the existing landscape is short-lived and temporary, to the greatest extent possible, and will be reclaimed so that the property can be used and enjoyed in perpetuity by current and future generations.

OVERVIEW OF PROPOSED OPERATION

The approximate 448-acre proposed expansion area is located entirely on private property immediately west and south of the existing operation in the Bear River's historic floodplain. Mining would occur on up to 365 acres of the expansion area. Approximately 83 acres would be preserved and protected as "oak preservation areas." The proposed expansion operations and facilities are shown in Exhibit 2-3.

The proposed project would incorporate the facilities and operations of the existing mine. Proposed operations, including extraction of sand and gravel deposits, processing operations, and site reclamation, would operate as an extension of the existing mine. Current facilities include an office trailer, scale house and truck scale, fuel storage tanks, and a maintenance building. A new office building near the site entrance is proposed to replace the portable office. The proposed asphalt batch plant would be located on a previously disturbed area immediately southwest of the processing plant. The proposed operation of the asphalt batch plant is described further in Section 2.4 below. The project would extend the estimated operation life of the mine from between 20 and 30 years to approximately 55 years. The average annual production rate (AAPR) would be reduced from about 1.5 mty to 1.25 mty. Table 2-3 summarizes key components of the proposed mine expansion project.

Table 2-3		
Proposed Mine Expansion Project: Mine and Mine Reclamation Plan Data ¹		
Operation	Existing Operation	Proposed Mine Expansion Project
Mining and Processing Data		
Mining Methods	Mining of sand and gravel deposits using scrapers, excavators, and dozers (see Section 2.3)	No change to mining methods proposed (see Section 2.3 for a description of mining methods)
Total Sand and Gravel Deposits	14 million tons (estimated volume remaining in Phase 1)	69 million tons (includes estimated volume remaining in Phase 1 plus estimated volume in proposed expansion phases)
Mining Volume: Annual Production Rate ²	1.5 million tons (AAPR ³) 1.82 million tons (MAPR ³) (See Section 2.4)	1.25 million tons (AAPR ³) 1.82 million tons (MAPR ³) (See Section 2.4)
Processing Facilities	Wash plant #1 Wash plant #2 Crusher plant Appurtenant facilities (see Section 2.3)	Wash plant #1 Wash plant #2 Crusher plant Asphalt batch plant Appurtenant facilities (see Section 2.4 for a description of processing facilities)
Processing Rate ³	1.5 million tons (See Section 2.4)	1.25 million tons (AAPR) (Includes 300,000 tons per year for the asphalt batch plant)

Table 2-3 Proposed Mine Expansion Project: Mine and Mine Reclamation Plan Data ¹		
Processing waste ⁴	30 percent	30 percent
Operating Hours and Work Force	Business and Hauling/Trucking: Mon-Fri: 6 a.m.–5 p.m. Sat: 6 a.m.–noon Mining and Processing: Mon-Sat: 6 a.m.–10:30 p.m. Summer: 5 a.m.–midnight Total Employees: 44 employees, two shifts	Business and Hauling/Trucking: Mon-Fri: 6 a.m.–5 p.m. Sat: 6 a.m.–noon Mining, Processing, Reclamation, and Onsite Transport: 5 a.m.–midnight, Mon-Sat Crushing: 7 a.m.–10 p.m., Mon-Sat 44 employees, two shifts Asphalt Batch Plant: 5 a.m.–midnight, Mon-Sat 3 employees Total Employees: 47 employees, two shifts
Reclamation		
Proposed Uses	Public fishing lake Wildlife habitat Agricultural uses, primarily walnuts (see Section 2.3)	Private lake Pond areas Elderberry mitigation area Riparian and oak woodland habitats Agricultural uses, primarily walnuts and rice (see Section 2.4 for an overview of proposed site reclamation)
¹ All values are approximate. ² Actual production rates would vary depending on the specific market demand for sand and gravel products. ³ Definitions of terms in used in this table: AAPR = average annual production rate of the Patterson Sand and Gravel mine, achieved by dividing the total sand and gravel deposits by the number of years of mine operation. For the proposed project, 69 million tons of reserves divided by 55 years = 1.25 million tons per year. The mine would produce more than this amount in some years, and less in others. MAPR = maximum annual production rate; the highest annual production rate achieved by the Patterson mine over the past 11 years. Achieved in 1999, this is the highest expected annual production rate for the mine. Processing rate = the amount of mined material processed (i.e., washed, crushed, mixed as asphalt) in an average year. This is expected to be equal to the AAPR. Under the proposed project, the total processing rate would include production of 300,000 tons per year for the proposed asphalt batch plant. ⁴ Processing waste would be used for reclamation activities and levee construction.		
Source: Carlton Engineering, Inc., 2003		

PROPOSED WORKFORCE AND SCHEDULE

Approximately 44 people are currently employed at the existing operation, performing mining, processing, and administrative functions. The proposed project would create three additional jobs associated with the operation of the asphalt batch plant.

Mining and processing operations under the current operating schedule are described in Section 2.3 and summarized in Table 2-3. Mine extraction activities and processing plant operations are proposed for 5 a.m.–midnight, Monday through Saturday, year round. The proposed hours of processing plant operation are Monday through Saturday, 5 a.m.–midnight. Crushing would take place from 7 a.m. to 10 p.m., Monday through Saturday. The proposed hours of hauling and trucking are Monday through Friday, 6 a.m.–5 p.m., and Saturdays, 6 a.m.–noon. The applicant is also seeking authorization to operate the asphalt batch plant from 5 a.m. to midnight, Monday through Saturday (Table 2-3). As under current conditions, no operations would occur on Sundays.

PROJECT RESERVES, PRODUCTION, AND OPERATIONS LIFE

Total sand and gravel deposits that underlie the existing mining and proposed expansion areas are estimated to be approximately 69 million tons (Table 2-3). The deposits were explored to approximate depths of 50–70 feet and generally consist of silty fine sands, sandy fine to coarse gravels, sandy clayey gravels, sandy gravelly clay, and clayey fine to coarse gravels with cobbles (Raney Geotechnical 1998). Surface and near-surface sands found within the deposits result in little or no overburden that would be encountered during mining operations.

The applicant is proposing to mine the estimated 69 million tons of reserves over the next 55 years. Therefore, the AAPR would be 1.25 million tons. Annual production, however, would depend on specific market demand for sand and gravel products. Because 1.25 mty represents the average production rate, the mine would produce more than 1.25 mty of aggregate some years, and less in others. The mine's highest annual production rate over the past 11 years was 1.82 mty in 1999 (Table 2-2). This is the highest expected annual production rate, and is called the maximum annual production rate (MAPR) in this EIR.

PROPOSED EXPANSION AREA: MINING

EXTRACTION OF SAND AND GRAVEL DEPOSITS

Mining would disturb up to 365 acres within the approximate 448-acre expansion area. Mining operations would use similar methods as the existing operation, in response to specific market demand. Initial excavations would occur after tree and vegetation removal (grubbing) using scrapers and related equipment (refer to Chapter 12, Biological Resources). Sand and gravel deposits would be mined to a maximum anticipated depth of approximately 100 feet below ground surface. The deepest excavations are anticipated to occur in the central area of Phases 1–5. Pit areas would be developed using excavators and/or dozers. Side slopes created during mining would be 2.25:1 or flatter with 12-foot-wide intermediate benches to be created at maximum intervals of 30 feet.

Project development plans include continued sand and gravel mining in the permitted AKT Wheatland Ranch LLC and Patterson Sand and Gravel properties areas (Phase 1/current operation as shown in Exhibit 2-3), along with expansion to the north and west into the adjoining walnut orchards bounding the western side of the currently permitted area. The proposed project would phase mining operation and reclamation activities over a 55-year span. Mining and reclamation would be conducted in six phases through the anticipated life of the project (Exhibit 2-3). The mine production and reclamation timeline for the proposed project by phase is shown in Exhibit 2-9.

Mining Phases 1–5 would proceed from the current mining area within Phase 1, north to the northern site boundary, then would move to the west and then to the south, to complete the mining of the resource north of the Bear River on AKT Wheatland Ranch LLC property. Part of Phase 1 would develop unmined deposits southeast of the river in the northeastern portion of the site on Patterson Sand and Gravel property. Phase 6 would develop resources within the Patterson property south of the current processing plant and southwest of the access road. Mining would disturb up to an estimated 6 acres annually, based on an approximate 55-year extension of mining operations. Specific acreages mined per phase would depend on specific market demand for sand and gravel products from the mine. Undisturbed portions of the proposed expansion area would continue to be used for agricultural purposes, primarily walnut orchards or rice fields. Once mining is completed in specific areas, concurrent reclamation activities would be implemented.

The existing processing plant would be expanded to the south by approximately 11 acres, and a proposed asphalt batch plant would be placed near the southwestern corner of the processing plant. The asphalt batch plant and processing facilities would remain onsite until active mining at the project site has been completed. Groundwater depths at the Patterson mine site vary from 18 to 41 feet below existing grade (Raney Geotechnical 1998). Therefore, sequential pit dewatering would occur during mining operations to allow for the continued extraction of sand and gravel deposits. After completion of mining, dewatering operations would be terminated.

PROPOSED EXPANSION AREA: PROCESSING

SAND AND GRAVEL PRODUCTS

Mined aggregate materials would be loaded onto haul trucks and scrapers, and transported to the processing plant using the existing internal haul roads and the 280-foot steel and concrete bridge that crosses the Bear River. The mined material would be stockpiled in the processing plant for initial processing (washing, crushing, and screening) and processing at the asphalt batch plant.

Processing operations associated with the proposed mine expansion project would consist of the same methods as those for the existing operation (refer to Section 2.3) and would use the existing facilities. Some of the mined materials would be processed near the pit area in a portable topsoil screening plant. This portable plant screens topsoil grade material from larger aggregate. Other mined materials would be processed in the main processing plant located south of the Bear River. Mined materials would be washed, screened, and crushed at rates similar to the mining rates (Carlton Engineering, Inc. 2003).

Exhibit 2-9

ASPHALT BATCH PLANT

The asphalt batch plant would be located south and west of the existing crusher, where existing settling ponds are being backfilled with overburden material for use in reclamation activities (Exhibit 2-10). Exhibit 2-11 shows a typical asphalt batch plant where the aggregate would be dried and mixed with heated asphalt oil to manufacture asphaltic concrete as specified by Caltrans Standard Specification §39. The proposed plant would consist of a feeder and conveyor belt, mixing drum aggregate dryer, silo, digital processor unit, baghouse (for emissions control), and pumps for circulating and unloading. The plant would produce up to 500 tons per hour and have a storage capacity of up to 1,000 tons in heated silos. The estimated annual production from the asphalt batch plant would be approximately 300,000 tons.

Typical silos are 55 to 60 feet tall. The height limit in the Farm (F) zone is 36 feet. Placer County will need to consider approval of a variance allowing the silos to exceed the 36-foot height limit while considering the applicant's requested conditional use permit (CUP) for the mine expansion project.

The asphalt batch plant would require three new employees: a plant operator, a loader operator, and a lab technician. The proposed period of operations would be 5 a.m.–midnight, Monday through Saturday. The plant is proposed to provide construction materials for a variety of roadway projects, with the heaviest supply periods expected to occur during the summer months.

WATER USAGE AND OTHER SERVICES

Because the proposed expansion project would mine aggregate material at a similar rate as the existing operation, water usage rates are expected to be similar to those of the existing operation. Processing water would be circulated within a closed system at the existing processing plant (Section 2.3). Processing operations would use water at a total rate of up to 4,500 gpm, supplied from washwater and make-up water (Carlton Engineering, Inc., 2003). This total flow of water would be supplied from reclaimed washwater and make-up water obtained from pit groundwater ponds.

Generation of fugitive dust could occur from the unpaved haul roads on the site, truck and equipment movement on unpaved surfaces, and aggregate processing operations and asphaltic concrete production. Dust control would be accomplished in accordance with requirements of the PCAPCD and the Feather River Air Quality Management District (FRAQMD). Dust from aggregate processing operations would be controlled through water sprays, as necessary, to minimize generation of fine particulates. Dust from the asphalt batch plant would be controlled by a bag house (Exhibit 2-11). Dust on roads and loading areas would be controlled by a water truck and/or sprinkler system, and a 10 miles per hour (mph) speed limit.

Exhibit 2-10

Exhibit 2-11 color

FUELS AND HAZARDOUS MATERIALS STORAGE

Operation of mine-related machinery involves the use and storage of fuels and waste petroleum and automotive products. These materials would be stored in existing aboveground storage tanks currently used for the existing operation, as well as three new storage tanks. These tanks include:

- ▶ a 12,000-gallon diesel fuel tank,
- ▶ a 1,000-gallon gasoline fuel tank,
- ▶ an approximately 1,200-gallon waste oil tank,
- ▶ an approximately 300-gallon used coolant tank,
- ▶ a 30,000-gallon propane storage tank (proposed), and
- ▶ two 30,000-gallon heated asphalt oil storage tanks (proposed).

Asphaltic oil would be delivered to the site on trucks several times per week (specific delivery would depend on the current and forecasted production rates). Delivery of asphaltic oil to the project site is further described in Chapter 7, Traffic; the use and storage of asphaltic oil is evaluated in Chapter 11, Water Resources, and Chapter 14, Hazardous Materials.

SURFACE DRAINAGE AND EROSION CONTROL

No surface runoff would be discharged to the Bear River. Drainage improvements for the proposed mine expansion would be constructed in conjunction with mining operations. These improvements would include one central lake for internal drainage and maintaining existing conditions of the drainage channel near the northwestern boundary of the project. The future central lake and current settling ponds and mine pits would provide a complete interior runoff collection system. Additional drainage improvements would include minimum 12-inch-deep drainage ditches located along the toe of the intermediate mine pit wall benches, and associated down drains.

During mining, all mine-related activities would conform to the Placer and Yuba County Grading, Erosion, and Sediment Control Ordinances. Work at the project site would include maintenance of interim erosion control materials and structures until final site reclamation has been implemented. Interim erosion control measures would be planned for areas to be mined and for constructed levees.

PUBLIC SAFETY AND SITE SECURITY

Mine operations are conducted in accordance with all applicable state and federal worker safety requirements including those of the U.S. Department of Labor, Mine Safety Health Administration. Safety and security measures have been incorporated into daily operations to protect mine employees and equipment, and members of the general public. Final slopes created during mining operations would be constructed at a maximum slope angle of 2.25:1 with benches spaced at maximum 30-foot intervals and widths of 12 feet according to the requirements of Uniform Building Code (UBC) Appendix 33 (Chapter A33).

The proposed mine expansion area would be located entirely on private property (AKT Wheatland Ranch LLC and Patterson Sand and Gravel properties). The proposed expansion area is bound on the north by a concrete lined irrigation canal on AKT Wheatland Ranch LLC property, and on the south by cattle fencing along the mine site boundary. Public access to the site is controlled by the mine site entrance gate, located on Camp Far West Road, which is locked during non-business hours. During mining of the eastern portion of Phase 1 and of Phase 6, a 6-foot-high chain link fence would be maintained on the southern property line to deter public access to the mine from the vicinity of Camp Far West Road. Security would be provided during the expanded operations by maintaining site fencing and barricades to deter public access to the site.

EXPANSION AREA: RECLAMATION

As described previously in Section 2.1, the mining areas would be reclaimed in accordance with SMARA, which requires surface mines to be reclaimed to a usable condition that is readily adaptable for a productive and alternative land use that creates no danger to public health or safety. Specific elements of the proposed reclamation are described below.

OVERVIEW OF MINE RECLAMATION

As described in Section 2.3, the Patterson Sand and Gravel mine currently operates under an approved mine reclamation plan in conformance with SMARA. As stated in the current plan, disturbed areas of the mine site would be reclaimed to agricultural uses (primarily walnut orchards) and public recreation and wildlife uses (Western Planning and Engineering 1986).

A mine reclamation plan has been prepared for the applicant to accommodate the proposed expansion areas and minor modifications to the current plan and to reclaim the site in compliance with the State Mining and Geology Board's Article 9 Reclamation Standards, adopted in 1993 (§3700 of the California Code of Regulations).

Proposed uses of mined areas would consist of wildlife habitat, a private lake, and agricultural uses (primarily walnut orchards). The proposed mine reclamation plan is shown in Exhibit 2-12. Final site elevations and cross sections are included in the mine reclamation plan and are depicted in Exhibit 2-13. Created wildlife habitat and watershed areas would consist of two lakes (one lake previously established in the northeast corner of the project area), emergent marsh habitat, undisturbed oak woodland preserve areas, the Bear River Corridor Preservation Area, oak riparian habitat, and elderberry beetle mitigation areas. A continuous oak and riparian corridor would be created from the South Preservation Area along the north side of the Bear River up to the 29-acre Central Preservation Area. The largest lake would encompass approximately 300 acres. Agricultural development would occur in the mined and backfilled areas northeast, north, and west of the proposed lake in the central portion of the project site on AKT Wheatland Ranch LLC property. Rice fields may be developed in the mined and backfilled areas southeast of the Bear River on Patterson Sand and Gravel property.

Exhibit 2-12 -- 11x17

11x17 second page

Exhibit 2-13 -- 11x17

11x17 second page

Mine reclamation would occur both during the mining phases (concurrent reclamation) and after the completion of mining at the project site (final reclamation). Concurrent reclamation activities would include recontouring and revegetation of mine pit side slopes, expansion and construction of levees, and the use of sandy silts and processing wastes for pit backfilling and growth media for use in revegetation of mine-related facilities. Concurrent reclamation would proceed in the mined areas within approximately 4 years of the initiation of mining within each phase with the exception of development of a water body. The central lake would be developed within the central area of Phases 1–5 following the completion of mining in those areas. Portions of areas surrounding the lake in Phases 2–5, and the northeastern portion of the project site would be backfilled with silts and fine sands to provide areas for AKT Wheatland Ranch LLC agricultural development and production. The final reclamation period would take up to 2 years after completion of mining.

PROPOSED TOPSOIL HANDLING

Certain portions of the site contain fine sand material near the surface that is not suitable for agricultural production because of poor moisture and nutrient holding capacity. This material is not marketable as “topsoil,” and is currently used, and proposed for continued use, as vegetative cover/growth media during reclamation.

The vegetative cover/growth media would be stockpiled in previously active settlings ponds as mine development continues. The volume of stockpiled material would vary throughout the life of the operation and would be used for concurrent and final reclamation activities including mine pit backfilling, levee expansion and construction, and recontouring of mine pit side slopes. Growth media stored in previously active settling ponds would be spread over mined areas and recontoured to a final slope or surface feature. A minimum of 6 inches of growth media would be spread over disturbed areas prior to revegetation.

PROPOSED REVEGETATION

Revegetation of mined areas is being proposed to augment natural recolonization to establish the wildlife habitats (and agricultural uses) described above, create a visually pleasing landscape, and screen views of the mine areas from adjacent properties. The proposed revegetation program would use seed and plant materials from established local plant communities. Exposed side slopes, abandoned haul roads, and other disturbed areas would be recontoured and covered with vegetative cover/growth media before revegetation operations immediately after the closure of mining in a particular area. Supplemental planting on nonagricultural lands would establish plant communities similar to the surrounding areas, such as annual grassland, oak woodland, and riparian plant communities. Among the species to be planted would be valley oak (*Quercus lobata*), interior live oak (*Q. wislizenii*), Fremont’s cottonwood (*Populus fremontii*), California black walnut (*Juglans californica*), coffeeberry (*Rhamnus californica*), and several species of willow (*Salix* spp.). Planted areas would be irrigated as necessary, using a water truck. Included in the proposed project would be restoration of oak woodland and riparian habitat on 212 acres on both sides of the Bear River. As described in the *Conceptual Woodland Mitigation Plan for the Patterson Sand and Gravel Expansion* (North Fork Associates 2004), trees would be planted in 5-year increments unless catastrophic failure or other unforeseen circumstances require a

different schedule. At the end of the 60-year project, there would be 7,420 living trees of various age classes in the restoration area. See Chapter 12, Biological Resources, for further details. In addition, a 15-acre elderberry mitigation area would be created in the northeastern portion of the project site, and the southeast and northwest areas of the proposed central lake (see Chapter 12, Biological Resources) in accordance with the U.S. Fish and Wildlife Service (USFWS) *Mitigation Guidelines for the Valley Elderberry Longhorn Beetle*.

In accordance with SMARA's Article 9 Reclamation Standards adopted in 1993 (California Code of Regulations [CCR] §3700), performance standards have been created to measure the relative success of revegetation at the project site. Monitoring of revegetated areas would be conducted until plant communities have been established for a minimum of 2 years without human intervention (e.g., irrigation, fertilization, weed control, maintenance). Additional information on the proposed revegetation activities is provided in Chapter 12, Biological Resources.

FINANCIAL ASSURANCES

SMARA requires surface mining operators to obtain lead agency-approved financial assurances for the reclamation of mined and disturbed areas so that the public would not bear the cost of reclaiming abandoned mines. Financial assurances may be in the form of irrevocable letters of credit, surety bonds, trust funds, or certain other forms specified under SMARA which the lead agency reasonably determines are adequate to perform reclamation in accordance with the surface mining operation's approved reclamation plan (PRC § 2773.1[a][1]). In the event of financial incapacitation by the mine operator, financial assurance would be used to reclaim the disturbed portions of the project site.

SMARA requires the following in the calculation of financial assurance:

- ▶ an analysis of the activities necessary to implement the mine reclamation plan,
- ▶ the unit cost and number of units for each reclamation activity, and
- ▶ administrative and contingency costs.

Financial assurance estimates are provided in the mine reclamation plan and include calculations for the removal of existing equipment and structures, and other steps necessary to fully reclaim the site in accordance with SMARA. Financial assurances are reviewed annually by the lead agency and adjusted, if necessary, to reflect the changes in reclamation costs based on the amount of land disturbed and reclaimed in the previous year, and the estimated amount of surface disturbance for the following year.

The total cost of reclamation activities consistent with the proposed end uses of the site is estimated to be approximately \$566,800 (Carlton Engineering, Inc., 2003). The total amount of financial assurances required of a mine operator for any one year, however, may not exceed the amount necessary to reclaim lands remaining disturbed (PRC §2773.1[a][4]).

2.5 REQUESTED PROJECT APPROVALS

As described in Chapter 1, Introduction, Placer County is the lead agency for the proposed project and has discretionary authority over the primary project approvals. However, a portion of the proposed project lies within the jurisdictional boundaries of Yuba County and may require discretionary approvals by Yuba County and the SMGB. As described in Section 1.1 of this EIR, staff from Placer County and Yuba County have been negotiating an MOU that would provide Placer County the authority to issue a CUP for the whole of the project area, including both counties. Also, Placer County and the SMGB have agreed that Placer County will be the lead agency for purposes of SMARA compliance, and the lead agency for purposes of CEQA. The applicant is requesting the following primary project approvals:

- ▶ Conditional Use Permits (Placer/Yuba counties),
- ▶ review and approval of the mine reclamation plan and financial assurances (Placer County/SMGB),
- ▶ rezoning to add an -MR combining district (Placer County), and
- ▶ a development agreement (Placer County).

In addition, this Draft EIR is also intended to be used by other responsible agencies that may have authority over the proposed project. Table 2-4 describes potential permits and/or approvals that would be required for development of the proposed mine expansion project. It is important to note that no County or SMGB approval would be required, nor would an EIR need to be prepared, for continuation of the currently permitted mining and processing operations in accordance with the current CUP and mine reclamation plan.

Table 2-4 Patterson Sand and Gravel Mine Expansion Project: Potential Required Permits and Approvals		
Agency	Permit / Approval	Purpose
Federal Agencies		
U.S. Fish and Wildlife Service	Federal Endangered Species Act §7 or §10(a) Permit	For incidental take of federally listed valley elderberry longhorn beetle.
U.S. Army Corps of Engineers	Nationwide Permit 27	Marsh restoration demonstration project.
State Agencies		
California Department of Conservation, State Mining and Geology Board	Mine Reclamation Plan and Financial Assurances Approval	Required under SMARA. This approval authority is expected to be transferred to Placer County pursuant to pending MOU.
California Department of Fish and Game	California Endangered Species Act, §2081 Agreement	For incidental take of state-listed species. (Refer to Chapter 12, Biological Resources.)

**Table 2-4
Patterson Sand and Gravel Mine Expansion Project:
Potential Required Permits and Approvals**

Agency	Permit / Approval	Purpose
	Section 1600-1605 Streambed Alteration Agreement	May be required for work affecting riparian or wetland habitat along the Bear River.
California Department of Water Resources, Reclamation Board	Reclamation Permit	Required for reclamation projects, among others that are in the Reclamation Board's jurisdiction.
California Department of Transportation	Encroachment Permit	Required for any new road connections to SR 65.
Central Valley Regional Water Quality Control Board	Waste Discharge Requirements	For waste discharges that may affect water quality of surface or groundwater or from waste that is discharged in a diffused manner (e.g., erosion from soil disturbance).
	Business Plan/Spill Prevention Control and Countermeasures Plan (SPCCP)	For the storage and handling of potentially hazardous materials, including fuels. SPCCP required to prevent an accidental spill that could affect surface waters. May apply to fuels and equipment servicing.
	National Pollutant Discharge Elimination System Permit	Required for projects with construction and grading of more than 1 acre that could affect surface waters and for operation of industrial facilities.
Placer County	Conditional Use Permit	Required under Placer County's surface mining ordinance (§17.56.270).
	Rezone	Required to add mineral reserve (-MR) combining district to proposed mine expansion areas.
	Building Permit	Prepared for construction of new scale house, office building, and asphalt batch plant.
	Mine Reclamation Plan and Financial Assurances Approval	Required under Placer County's surface mining ordinance to assure reclamation of mined lands to productive use (§17.56.270).

Table 2-4
Patterson Sand and Gravel Mine Expansion Project:
Potential Required Permits and Approvals

Agency	Permit / Approval	Purpose
	Development Agreement	Prepared for construction and operation of the asphalt batch plant and the expanded mining operation.
	Variance	To allow for construction of asphalt batch plant components (silo) that exceed 36-foot height limit.
Yuba County	Conditional Use Permit	Required under Yuba County's zoning ordinance. This approval authority might be transferred to Placer County pursuant to pending MOU.
Placer County Air Pollution Control District/Feather River Air Quality Management District	Authority to Construct Permit	Required for construction and operation of the asphalt batch plant.
	Operating Permit	Required for operation of the asphalt batch plant.
Source: EDAW 2004		